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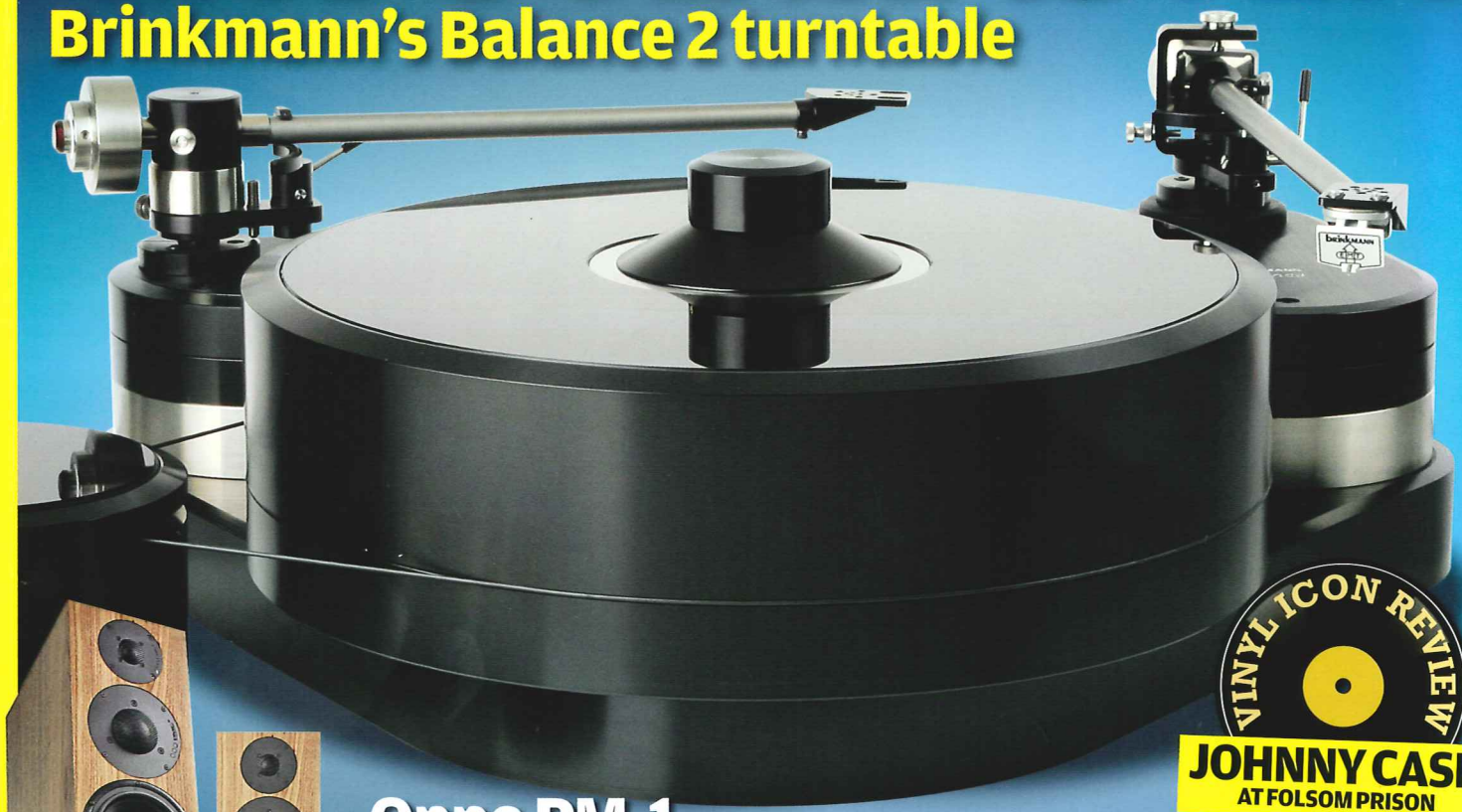

VINYL ICON REVIEW

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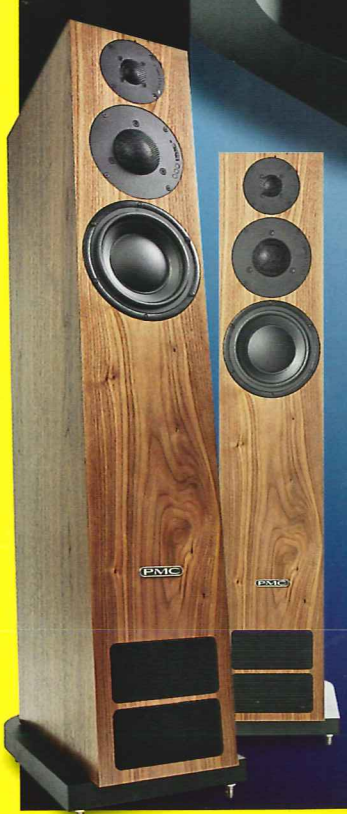

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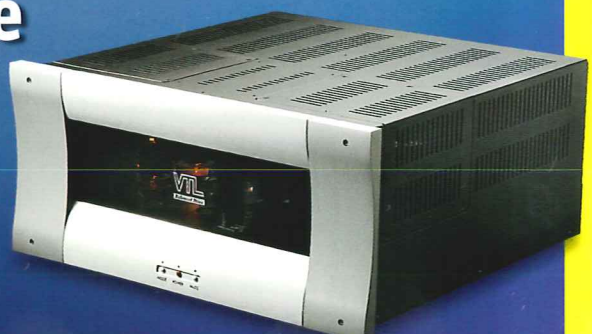
Sonus faber's 'Ex3ma' speaker
HFN Investigates, p12



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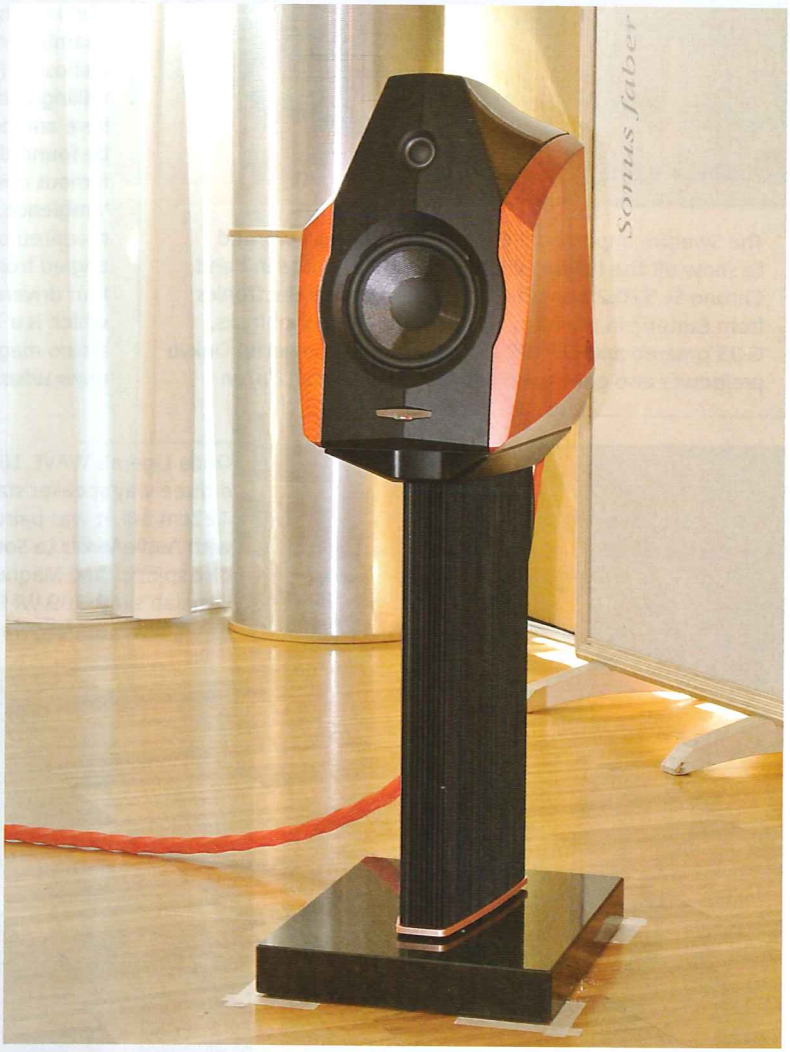
Ex3ma measures

Ken Kessler hears the world's most costly 'small' monitor – at Sonus faber



RIGHT: The Ex3ma on its dedicated pedestal, photographed in the Sonus faber listening room. The height of the speaker plus stand is 1095mm. Just 30 pairs of the Ex3ma are to be made

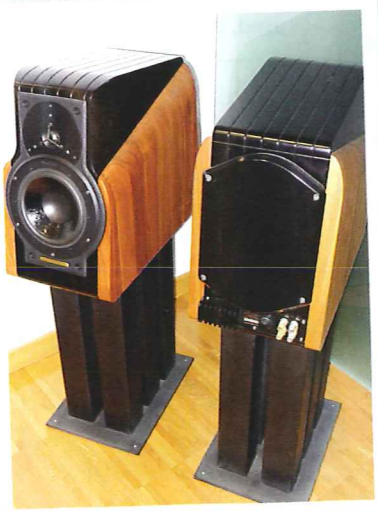
Please forgive any melodrama: I am – genuinely – as stunned as any by Sonus faber's Ex3ma, which represents a radical event in high-end audio because the implications of its business model go beyond the product itself. Simply put, the Italian speaker firm has ignored the rules by which the high-end operates, turning instead to the realm of select, high-performance objects like supercars.

For once, an automotive analogy is inescapable: at 2013's Munich High End Show, Sonus faber displayed Pagani's Huayra – one of the world's costliest vehicles – with a bespoke system. Sonus faber's owners – Fine Sounds – is also the steward of McIntosh, Wadia and Audio Research, which undoubtedly helped in creating the car's 1200W amplification and the complex, dedicated DSP elements.

BEYOND DRAMA

Sonus faber's gains from working with Pagani go beyond the mere drama of turning up at a hi-fi show with a car that draws crowds the way Hollywood stars do at premieres in Leicester Square. Their engineers have clearly benefited from Pagani's expertise in the use of titanium, as well as carbon fibre.

Technology developed for the Aida and 'The Sonus faber' was used in the baskets of the Huayra's speakers, with hybrid 'avional/ gunmetal' structures calculated to damp natural resonances of the two materials. Speaker diaphragms used a special ultra-light carbon fibre optimised for audio, with due care paid to rigidity and damping. Neodymium magnets were used throughout, chosen for best performance and the lightest weight possible. It all presaged the Ex3ma.



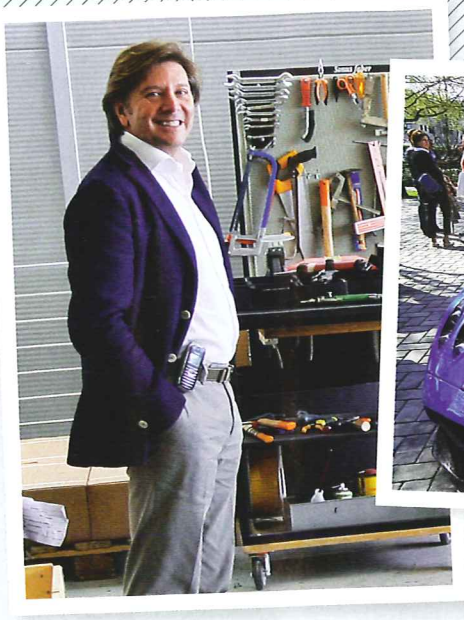
BELOW RIGHT: The original Extrema of 1991, the resemblance unmistakable. Note the rear view of the speaker on the right showing the plate covering the B139 passive radiator. The plate doesn't just protect the driver but spreads the sound to create bass 'ambience'

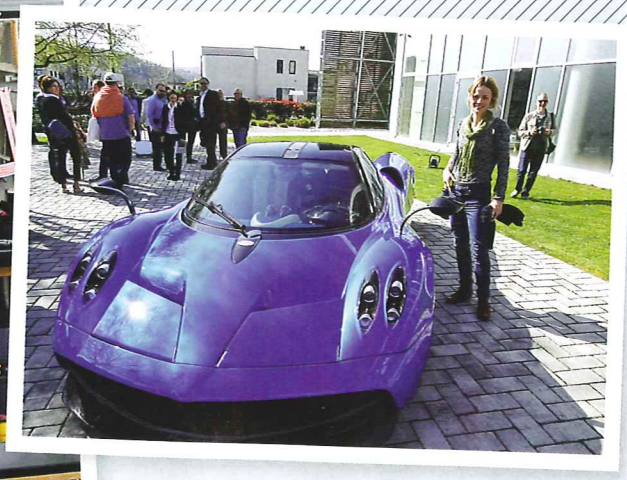
EX3MA ARRIVES

So important is the Ex3ma to Sonus faber that the company held a massive press conference in Italy for a few hundred guests. I missed the unveiling but visited a few weeks later. It afforded me a tour of the factory which I hadn't visited in a decade, with the privilege of a lengthy, private demonstration in Sonus faber's listening room.

It is likely that, due to the speaker's rarity and the fact that the limited production run has been allocated already to dealers and distributors, the Ex3ma may never actually go out for review. There's no point. Thus, this 'Investigation' has the unusual element of containing an unofficial 'mini-review'. To the best of my knowledge, I am the only outsider who had a one-to-one 'audience' with the Ex3ma, rather than a quickie demo. I left the sessions a changed man.

Should the Ex3ma's name seem forced or odd, note that Sonus faber is Italian, and manufacturers have every right to employ wordplay in





their own languages. The figure '3' in Italian is 'tre', pronounced like 'tray' – so say it out loud and you have 'Ex-tre-ma'. The '3' in the middle also signifies three decades since Sonus faber was founded – not a third edition because this is only the second speaker to use the Extrema name.

As homages go, this ranks right up there with the modern Mini or Tudor's revived Black Bay wristwatch. Sonus faber created an all-new model with a brand-new look, yet it is unmistakably descended from the original Extrema, which was reviewed in the August 1991 issue of *HFN*.

In the company's brochure, the mission statement reads, 'Sonus faber decided to pay homage to its most "extreme" project, remaining perfectly adherent to the intentions that characterised its creation.' Another surprise: I didn't know that the Extrema, which never inspired any models in its wake, was held – internally – in such high regard.

Those who knew the original will recall key elements that made the Extrema so novel. Most vivid was a look derived from its sloped and grooved front baffle, with a centre section of solid MDF finished in semi-gloss black, between sides of solid walnut. Underneath were massive, brutally utilitarian pedestals, while technical considerations added their own novelty value.

Not least was the use of the famed KEF B139 lozenge-shaped passive radiator, a crossover that swallowed 10W on its own and user-adjustable levels of damping the lower frequencies. The B139 was mounted at the back, firing at a metal plate that cleared the woofer by a couple of centimetres. The plate served as both protection for the driver and a means of creating bass 'ambience' by spreading the sound.

UPDATING A LEGEND

Most radical among the updates, besides the sleek and swoopy new shape, is the Ex3ma's main section, made from a carbon fibre shell. Although not new to carbon fibre, Sonus faber certainly learned a few tricks from Pagani: the 'monocoque' shell is as complex as any I've seen for a hi-fi application.

> 'Sonus faber has re-engineered the long-obsolete KEF B139 bass driver'

'Cooked' in an autoclave in a custom-made mould fashioned from six elements, the Ex3ma chassis is made of numerous layers of carbon fibre with various damping materials in-between. The overlapping is undertaken by a skilled worker, the Ex3ma genuinely warranting use of the term 'hand-made': only two or three Sonus faber employees out of the 42-strong staff can work on this particular model.

Lightness, once any speaker has been positioned, serves no real purpose, but other virtues of carbon fibre are cited as rigidity, non-deformability and damping. The structure is sandwiched between side panels shaped by CNC machines that call upon the violin maker's art, a technique championed by founder Franco Serblin that reached its apotheosis in the 'Homage' models. For the Ex3ma, the wood is red spruce from Val di Fiemme, also used in the manufacture of the finest stringed instruments.

Whether it's hype or art or science, the company admits that the actual supporting structure of the Ex3ma is the carbon fibre monocoque, which thus renders the wood panels – to a mere observer such as I – purely cosmetic. Nevertheless, Sonus faber, ever in tune (pun intended) with the effects of wood, suggests that it serves as a 'pure resounding element, exactly as in the sound board of string instruments.'

ALUMINIUM ALLOYS

As evinced by most of Sonus faber's recent efforts, aluminium has become a key ingredient in the brand's high-end ventures.

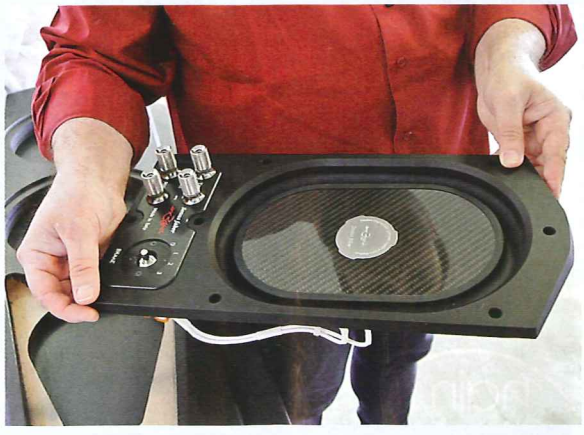
Two aluminium alloys, Avional and Ergal, have been used in the structure of the Ex3ma; Avional's properties of lightness and hardness were proven of value in the development of 'the Sonus ⇨

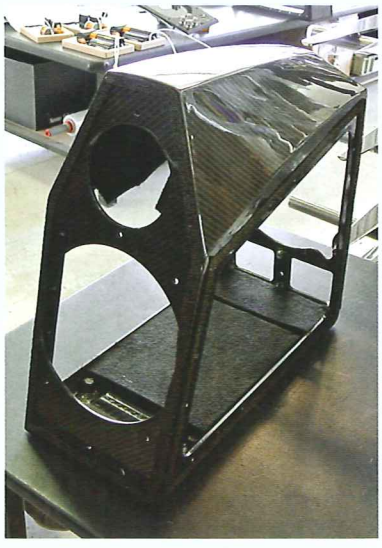
ABOVE: Pagani's awesome Huayra supercar with its bespoke Sonus faber sound system

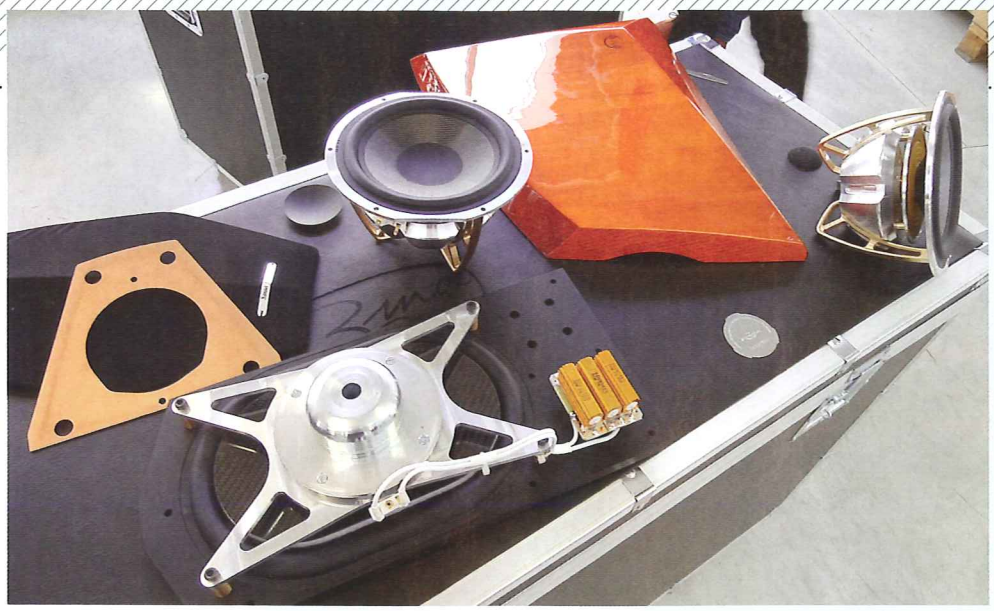
ABOVE LEFT: Fine Sounds CEO Mauro Grange. The Italian-based company oversees McIntosh, Wadia, Audio Research, and Sonus faber, of course

BELOW RIGHT: The monocoque chassis of the Ex3ma. Made from numerous layers of carbon fibre, it's this chassis that is the speaker's supporting structure

BELOW: The new interpretation of the revered B139 passive radiator







faber'. For the Ex3ma, the material forms the front and the back of the speaker. Sheets of Avional are CNC-machined from solid billets and finished by hand to 'create a high mass structure that can dampen the stress produced by the powerful drivers.' The aluminium components work with the monocoque to hold it all together, in concert with inserts made of sheets of copper and viscoelastic decoupling materials.

Ergal is used in addition to Avional because it is regarded by the designers as the 'best of all conventional aluminium alloys in terms of hardness and mechanical resistance, precious characteristics for creating drivers with exemplary performance.' The structures of the Ex3ma's transducers are made by milling solid pieces of Ergal.

A material also popular of late with camera and watch designers for their cases is gunmetal. Sonus faber's gunmetal is a special alloy of copper, zinc and tin, and is employed in the baskets of the mid and low frequency drivers, with parts machined from solid billets. The combination of gunmetal and Ergal cancels 'reciprocal resonances'.

OLD TECH/NEW TECH

Sonus faber turned to rare, costly materials for the 30mm tweeter diaphragm: beryllium and diamond, the former first used back in 1977 in Japan. Those beryllium cones were produced with 'Physical Vapour Deposition', familiar to watch enthusiasts as PVD – the technique used to coat stainless steel watch cases a stealthy black.

Sonus faber reverted to this process for the beryllium, while tempering the 'metallic effect' of the material with a surface treatment applied with the even more robust 'Chemical Vapour Deposition': a layer of DLC ('Diamond Like Carbon'). This has supplanted PVD for high-end watch manufacture, and, yes, DLC costs more than PVD as it is more difficult to apply but more resistant to wear.

A diamond/beryllium hybrid should offer the best of both worlds, providing hardness and rigidity for extremely fast behaviour. The tweeter operates above 2.35kHz and is configured with its own rear 'decompression chamber' with acoustic labyrinth, reinforced by CNC-machined Ergal. Handling the frequencies below it is a 180mm 'ultra dynamic linearity' mid-woofer with a neodymium magnet, with 6N pure copper voice coils. The proprietary diaphragm is a sandwich of nano-carbon material and a damping foam said to ensure optimal resolution.

An inverted DLC/beryllium dome cap further increases the rigidity of the cone and improves transparency, as does the Ergal-and-gunmetal basket. This mid-woofer is separate from the front panel, designed with its own 'acoustic chamber'.

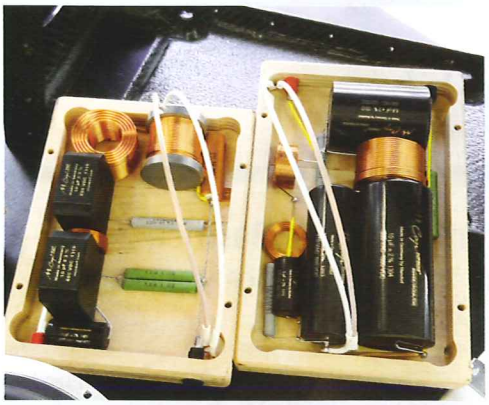
CLEVEREST MOVE

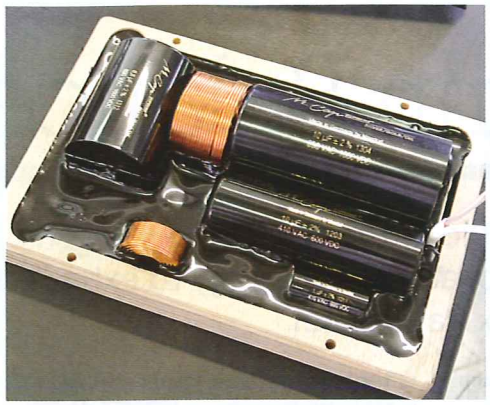
Even more surprising, enough to make this old fart choke with nostalgia, was Sonus faber's cleverest move of all: it has re-engineered the long-obsolete B139, KEF showing no interest in re-introducing it. The new version employs materials of which Raymond Cooke could only have dreamed. But if you own old KEFs, TDLs, IMFs or other vintage speakers in need of new B139s, don't get too excited: Sonus faber is making them only for their own usage, despite the fact that repro B139s could prove to be a nice little earner in the aftermarket/DIY sector.

> 'Eyes closed, I could have been listening to a Wilson XLF'

ABOVE: The Ex3ma's components laid out; note the beautiful machined basket for the passive radiator

BELOW: Elsewhere in the factory are cabinets awaiting drivers (left); Sonus faber's skilled leather workers preparing sections to cover the speakers' baffles





It is a thing of beauty. A passive radiator developed completely in-house but to B139 dimensions and functionality, it has been dubbed E.M.B.A.B.R (Electro Magnetic Brake Auxiliary Bass Radiator), with variable damping as in the original Extrema.

Its flat diaphragm is made of carbon fibre, positioned midway between the sandwich structures of the mid-woofer cone and the monocoque. The basket was developed to eliminate all resonance, made from machined Ergal and gunmetal. The quality of construction is simply staggering.

The Ex3ma's crossover, too, is a model of superior construction. The user-adjustable bass damping has four positions; all hardware is of the highest quality and it should be easier to drive than the original, with 88dB sensitivity and 4ohm impedance: I heard it with a low-powered valve amp and the sound was truly impressive.

'Sonus faber has destroyed the Ex3ma's carbon fibre mould'

ATTACK, DETAIL, CLARITY

What nothing can prepare you for is the soundstage created by a speaker measuring only 434x282x560mm (hwd) on a gorgeous pedestal standing 660mm tall. Eyes closed, and I could have been listening to a speaker the size of a Wilson XLF, with the height and three-dimensionality of a Sound Labs ESL. Open and airy, the Ex3ma does a disappearing act to rival the best I have ever heard.

Attack, detail, clarity – this speaker is a peerless thoroughbred that embodies all the tenets of 'high performance', yet it takes up so little space that it makes a mockery of most behemoths. Even the bass was rich, deep and convincing. Alas, it may prove to be as much of a cul de sac as its ancestor, should Sonus faber choose not to use it as a launch pad for similar models.

Which brings us to the downside. Sonus faber is making only 30 pairs of the Ex3ma, demonstrating its pledge by destroying the carbon fibre mould, and making a meal of it on YouTube. Moreover, the price is so forbiddingly high that it is best described as 'POA', for 'Price On Application'. But let's not be coy, the Ex3ma costs as much as a loaded Maserati Ghibli, a Patek Philippe Nautilus watch and a few cases of Masseto. With enough left over for you to feed ten friends at The Ivy. And leave an eye-watering tip.

Normally I won't apologise for prices. I am of the sort who silences the Scrooges of the world with a simple: 'No-one is holding a gun to your head to force you to buy Product X.' But the blood dripping down my shirt is from biting my tongue.

I am flabbergasted at a price nudging six-figures. Troubling, too, is the decision to destroy the mould and to make only 30 pairs, when anyone with a shred of commercial vision would release a 'normal production' model of less lavish specification to satisfy those who would love to own this masterpiece, but now never will. And it's also painfully obvious that Sonus faber's refusal to manufacture and market B139s, having already tooled up for them, is simply baffling.

ABOVE: Crossover components, before and after potting. Sonus faber uses Mundorf 'Supreme' capacitors and each crossover is tuned by R&D manager Paolo Tezzon

BELOW: Also to be seen was mint-condition, vintage Audio Research hardware which has inspired the range to be launched at the Munich High End Show; white card shapes hint at the profile and dimensions

FUTURE TECH

A wander around the factory, built in 2002, reminded me that Sonus faber has its own leather-craft department, which wouldn't look out of place in a shoe factory, or upholstering fine chairs. 'Hand-made' isn't a conceit here, nor is 'Italian-ness': all of Sonus faber's suppliers are within a 15km radius of the factory. A quasi-anechoic chamber, a listening room worthy of an audiophile – it took me back to my last visit, when Franco Serblin unveiled the Stradivari Homage.

Last May, Fine Sounds opened its Design Lab directly across the street. I saw glimpses of models that may not appear for two or more years, as well as previews of Audio Research amplifiers, McIntosh headphones and the new Lilium loudspeaker, due to be launched in Munich. The place is a'buzz with clever designs, including a high-end one-piece system that will make interior decorators swoon.

Thirty-one years after Sonus faber completely up-ended the notion of plain, sterile, prosaic and/or ugly boxes, the company has lost none of its creativity. As much as the inherent rarity of the Ex3ma disturbs me, I'm just as pleased to note that Franco Serblin's legacy remains as influential as ever.